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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,894	07/20/2000	Raymond Bontempi	MOT-D2149	4648
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VOLPE AND KOENIG, P.C. DEPT. MOT UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			RYMAN, DANIEL J	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/621,894

Applicant(s)

BONTEMPI, RAYMOND

Examiner

Daniel J. Ryman

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✓

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 14, 19, and 20 is/are allowed.
- 6) ☒ Claim(s) 1-12 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-12 and 16-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9, 10, 12, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (USPN 6,240,083) in view of Chan et al (USPN 4,816,825).
4. Regarding claims 1 and 17, Wright discloses a method of and system for providing medium access control over an upstream channel in a communication network system serving a plurality of system users, having an upstream channel for carrying upstream messages from at least a subset of the plurality of system users to a communication server and a downstream channel connecting said communication server to said system users of said subset (col. 1, lines 26-37), the method comprising the steps of and the system comprising means for: (a) classifying upstream user messages as a type-one (short message, contention) or a type-two message (long message, reservation) based on a predetermined factor (length of message) (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40); (b) for each type-two message, defining a type-one message, as a reserve request, directed to all other users in the subset of users to reserve upstream channel usage to the sending user for sending a type-two message (col. 4, line 51-col. 5, line 8 and col. 5,

lines 18-40); and (c) said users selectively buffering said messages such that type-one messages are buffered if a reserve message has been received and type-two messages are buffered until after its associated type-one message is sent and received by the other users (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40).

Wright does not expressly disclose that a copy of type-one messages will be distributed from a user of the subset of users to all users in said subset of users. Wright does disclose that type-one messages include reservations for type-two messages (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40). Wright further discloses that collisions are possible during the transmission of type-one packets (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40). Chan teaches, in a two-way broadband communication network, that it is well known to distribute a copy of a messages from a user of the subset of users to all users in said subset of users in order to allow communication between users on the network and to allow for error checking due to collisions (col. 1, lines 13-36 and col. 3, lines 9-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to distribute a copy of type-one messages from a user of the subset of users to all users in said subset of users in order to allow for error checking due to collisions of all type-one packets, where a downstream packet is distributed to all users regardless of whether or not the user processes the packet.

5. Regarding claim 2, Wright in view of Chan discloses that the upstream user message contains information to identify said message sender (Wright: col. 5, lines 41-62).

6. Regarding claim 3, Wright in view of Chan implicitly discloses that the upstream user message contains information to identify the designated message receiver (Wright: col. 5, lines 41-62 and col. 9, line 36-col. 10, line 5).

7. Regarding claim 4, Wright in view of Chan discloses that the predetermined factor to classify the type of message is based on the size of said message (Wright: col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40).

8. Regarding claim 5, Wright in view of Chan suggests that the predetermined factor to classify type of message is based on the level of priority of said message (Wright: col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40) where, as broadly defined, large messages are given priority over small messages since the transmission of small messages is interrupted to transmit a large message.

9. Regarding claim 6, Wright in view of Chan suggests that a receiver of said type-two message returns an acknowledgement to a sender of said type-two message upon successful receipt of said type-two message (Wright: col. 9, lines 59-61).

10. Regarding claim 7, Wright in view of Chan suggest that the type-one message, the reserve message, and the type-two message are transmitted using a standard packet cell data structure, wherein said messages can be further segmented and encapsulated into a multi-packet cell comprising a plurality of packet cells (Wright: col. 9, line 36-col. 10, line 5 and col. 18, lines 62-64).

11. Regarding claim 9, Wright in view of Chan suggests that receiving a type-one message from downstream channel by said message sender serves as an acknowledgment to indicate that other users of said subset and said communication server successfully received said type-one message (Chan: col. 3, lines 9-17).

12. Regarding claim 10, Wright in view of Chan discloses that the users buffer said messages for a predetermined period of time after receiving a reserve request (Wright: col. 4, line 51-col.

5, line 8 and col. 5, lines 18-40) where the predetermined time is the time required for a communication channel to become available for transmission.

13. Regarding claim 12, Wright in view of Chan suggests that the packet cell of said message further comprises at least one header portion and at least one data portion (Wright: col. 9, line 48-col. 10, line 5) where it is well known to have a packet cell comprise a header portion and a data portion; wherein one designated bit of the header portion is set to identify said packet cell as a reserve request (Wright: col. 10, lines 49-55) where it is implicit that the request message contains a destination address for the hub, such that, as broadly defined, there is one designated bit of the header portion is set to identify said packet cell as a reserve request, namely the destination address.

14. Regarding claim 16, Wright in view of Chan discloses that the system further comprises: grouping said system users into a plurality of subsets of users (users on a single reverse channel) (Wright: col. 9, lines 26-29); managing said subset of users by checking the type (data or reservation), the integrity of said sending message, and the message traffic transmitting to/from said subset of users (checking if packet has been successfully received) (Wright: col. 6, lines 51-56 and Chan: col. 1, lines 13-36 and col. 3, lines 9-17); extracting a copy of said type-one message of said subset of users from said upstream channel and inserting it into said downstream channel connecting said subset of users (Chan: col. 1, lines 13-36 and col. 3, lines 9-17); and forwarding said upstream messages from said upstream channel to said communication server (Wright: col. 9, lines 16-46).

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15. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (USPN 6,240,083) in view of Chan et al (USPN 4,816,825) as applied to claim 7 above, and further in view of Crager et al (USPN 4,058,672).

16. Regarding claim 8, Wright in view of Chan does not expressly disclose that a first packet cell of said multi-packet cell contains the total number of packet cells for said message and each said packet cell having information to identify its packet cell sequence within the multi-packet cells. Crager teaches, in a packet transmission system, that the first predetermined number of packet cells of said multi-packet cell message contains the total number of packet cells for said message and each said packet cell having information to identify its packet cell sequence within the multi-packet cells in order to provide message level error recovery (col. 20, lines 47-56 and col. 21, lines 25-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the first predetermined number of packet cells of said multi-packet cell message contain the total number of packet cells for said message and to have each said packet cell have information to identify its packet cell sequence within the multi-packet cells in order to provide message level error recovery.

Wright in view of Chan in further view of Crager does not expressly disclose that the first packet cell contains the total number of packet cells; Wright in view of Chan in further view of Crager does disclose that the first predetermined number of packet cells contains the total number of packet cells (Crager: col. 20, lines 47-56 and col. 21, lines 25-28). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32

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USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Wright in view of Chan in further view of Crager discloses that the first predetermined number of packet cells contains the total number of packet cells, having the predetermined number be any number, including one cell, would have been obvious absent a showing of criticality by Applicant.

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (USPN 6,240,083) in view of Chan et al (USPN 4,816,825) in further view of Limb (USPN 4,412,326) and Yang et al. (USPN 5,650,997).

18. Regarding claim 11, Wright in view of Chan does not expressly disclose that the users buffer said messages for an optimal backoff time using an algorithm to calculate such backoff time each time said user completes an upstream transmission or receives a reserve request from another user of said subset, said backoff time calculated based on a plurality of factors including the message round-trip propagation time, the size of last upstream message sent by said user, and the total number of current on-line users of said subset tracked by said communication system. However, Wright in view of Chan does disclose that it is known to buffer messages for a backoff time (Wright: col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40). Limb teaches, in a packet communication network, varying a backoff time each time said user completes an upstream transmission where the backoff time is based on a plurality of factors including the message round-trip propagation time (electrical distance between stations which is half of round-trip

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propagation time) and the size of last upstream message sent by said user (begin delay after completion of transmission of last message) in order to ensure that the packet is transmitted without collision (abstract and col. 1, line 64-col. 2, line 32). It would have been obvious to one of ordinary skill in the art at the time of the invention to vary a backoff time each time said user completes an upstream transmission where the backoff time is based on a plurality of factors including the message round-trip propagation time (electrical distance between stations which is half of round-trip propagation time) and the size of last upstream message sent by said user (begin delay after completion of transmission of last message) in order to ensure that the packet is transmitted without collision.

Wright in view of Chan in further view of Limb does not expressly disclose varying a backoff time based on the total number of current on-line users. However, Wright in view of Chan in further view of Limb does disclose varying the backoff time based on other factors (Limb: abstract and col. 1, line 64-col. 2, line 32). Yang teaches, in a contention based system, that the capture effect will occur in a system employing a typical backoff algorithm when there is a small number of nodes (col. 2, lines 5-13). Yang also teaches that the capture effect can be avoided by increasing the backoff time for certain nodes (col. 3, lines 1-23). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to vary a backoff time based on the total number of current on-line users in order to avoid the capture effect.

19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (USPN 6,240,083) in view of Chan et al (USPN 4,816,825) in further view of Limb (USPN 4,412,326).

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20. Regarding claim 18, Wright discloses a network system implementing medium access control mechanism, having a headend (base station), a downstream channel connecting said headend with a plurality of settop users and carrying downstream messages, and at least an upstream channel connecting said headend with a plurality of settop users and carrying upstream messages (col. 1, lines 26-37), the system comprising: (a) means for buffering a message and classifying said message as a type-one or a type-two message based on a predetermined factor by a message sender (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40); (b) means for said message sender to transmit a copy of said buffered message into said upstream channel immediately if the message is a type-one message, and issuing a special type-one message, a reserve request, into said upstream channel immediately if said buffered message is a type-two message (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40); (d) means for inducing other settop users which have received said reserve request from said downstream channel to refrain from transmitting into said upstream channels for a period of time equal to a reservation time (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40); (e) means for transmitting a copy of said buffered type-two message into said upstream channel by said reserve request sender once it has received said reserve request it sent from said downstream channel (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40); (f) means for responding by said headend by sending an acknowledge to said type-two message sender to indicate successful receipt of said type-two message (col. 6, lines 51-56); (g) mean for removing said buffered type-two message from buffering by said type-two message sender when it receives said acknowledge (col. 4, line 51-col. 5, line 8 and col. 5, lines 18-40) where this is implicit; and (h) means for re-transmitting said message after a

predetermined period of time if the number of retries has not exceeded a predetermined maximum retry count (col. 3, lines 30-33).

Wright does not expressly disclose that the system is a CATV system; however, Examiner takes official notice that CATV system are well known in the art as a means for distributing cable television signals. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the system be a CATV system in order to distribute cable television signals to users.

Wright does not expressly disclose (c) means for transferring said type-one message and said reserve request directly from said upstream channel into said downstream channel. Chan teaches, in a two-way broadband communication network, that it is well known to distribute a copy of a messages from a user of the subset of users to all users in said subset of users in order to allow communication between users on the network and to allow for error checking due to collisions (col. 1, lines 13-36 and col. 3, lines 9-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to have means for transferring said type-one message directly from said upstream channel into said downstream channel in order to allow for error checking due to collisions of all type-one packets.

Wright in view of Chan does not expressly disclose that inducing other settop users to refrain from transmitting includes reducing the other settop users to refrain from transmitting for an additional guard band. Limb teaches, in a packet communication network, means for inducing other settop users received said reserve request from said downstream channel to refrain from transmitting into said upstream channels for a period of time equal to the reservation time plus additional guard band in order to ensure that the packet is transmitted without collision (abstract

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and col. 1, line 64-col. 2, line 32). It would have been obvious to one of ordinary skill in the art at the time of the invention to have means for inducing other settop users received said reserve request from said downstream channel to refrain from transmitting into said upstream channels for a period of time equal to the reservation time plus additional guard band in order to ensure that the packet is transmitted without collision.

Allowable Subject Matter

21. Claims 13, 14, 19, and 20 are allowed. While it is well known in the prior art to adjust the backoff time according to the number of active users in a system, the prior art does not disclose or fairly suggest adjusting the backoff time according to the total number of users, both active and inactive, in the system.

22. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. While it is well known in the prior art to adjust the backoff time according to the number of active users in a system, the prior art does not disclose or fairly suggest adjusting the backoff time according to the total number of users, both active and inactive, in the system.

Conclusion


23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Safadi (USPN 5,572,517) see entire document which pertains to hybrid MAC for cable networks. Kidder et al (USPN 5,903,735) see entire document which pertains to transmitting data having minimal bandwidth requirements before other data. Ball et al (USPN 4,672,608) see entire document which pertains to selecting an operating mode on an ALOHA


system. Citta (USPN 4,528,663) see entire document which pertains to varying a backoff time depending on traffic load (relates to number of active users). Bestler et al (USPN 5,570,347) see entire document which pertains to varying a backoff time depending on traffic load (relates to number of active users). Dahod (USPN 4,500,989) see entire document which pertains to transmitting and processing data on a bus according to variable message lengths

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 Daniel J. Ryman
Examiner
Art Unit 2665


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